

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings of claims in the application:

Listing of Claims:

- 1 1. (currently amended) A method of dynamically mapping addresses between a virtual disk address and one or more physical block addresses for a storage system in response to a write operation requested by a host system, the method comprising:
 - 4 receiving a write request from a host, said write request including a virtual memory address and one or more blocks of data;
 - 6 determining whether memory space in the storage system has been allocated for the one or more blocks of data based on the virtual memory address;
 - 8 if it is determined that memory space has been allocated, completing the write operation to the allocated memory space; and
 - 10 if it is determined that no memory space has been allocated:
 - 11 automatically allocating memory space in the storage system for the one or more blocks of data, wherein automatically allocating includes automatically updating a mapping table to include an entry linking the virtual address and one or more physical block addresses of the storage system; and
 - 16 completing the write operation to the allocated memory space.
- 1 2. (currently amended) The method of claim 1, wherein determining includes determining whether [[a]] the mapping table includes a link between the virtual address and one or more physical block addresses of the storage system.
- 1 3. (canceled).
- 1 4. (original) The method of claim 1, wherein if it is determined that no memory space has been allocated, the method further comprises:
 - 3 determining the number of blocks of memory space in the storage system to be allocated.

1 5. (original) The method of claim 4, wherein the number of blocks allocated
2 is greater than the number of data blocks included with the write request.

1 6. (original) The method of claim 1, wherein the storage system includes a
2 plurality of storage devices.

1 7. (currently amended) A method of dynamically mapping addresses
2 between a virtual disk address and one or more physical block addresses for a storage system in
3 response to a request from a host system to perform an operation on the storage system, the
4 method comprising:

5 receiving a request from a host to perform an operation on one or more blocks of
6 the storage system, said request including a virtual memory address;

7 determining from a mapping table whether memory space in the storage system
8 has been allocated for the virtual memory address;

9 if it is determined that memory space has been allocated, completing the operation
10 on the allocated memory space; and

11 if it is determined that no memory space has been allocated:

12 automatically allocating memory space in the storage system for the
13 virtual address, wherein automatically allocating includes
14 automatically updating a mapping table to include an entry linking
15 the virtual address and one or more physical block addresses of the
16 storage system; and

17 completing the operation on the allocated memory space.

1 8. (original) The method of claim 7, wherein the operation is a read
2 operation, and wherein if it is determined that memory space has been allocated, completing the
3 operation includes retrieving the data from the allocated memory space.

1 9. (original) The method of claim 8, wherein the operation is a read
2 operation, and wherein if it determined that no memory space has been allocated, completing the
3 operation includes returning a default formatted page without retrieving any data from the
4 storage system.

1 10. (original) The method of claim 7, wherein the operation is a write
2 operation and wherein the request includes one or more blocks of data to be written to the
3 storage system.

1 11. (original) The method of claim 10, wherein if it is determined that no
2 memory space has been allocated, the method further comprises:

3 determining the number of blocks of memory space in the storage system to be
4 allocated.

1 12. (original) The method of claim 11, wherein the number of blocks
2 allocated is greater than the number of data blocks included with the write request.

1 13. (currently amended) The method of claim 7, wherein determining
2 includes determining whether [[a]] the mapping table includes a link between the virtual address
3 and one or more physical block addresses of the storage system.

4 14. (canceled)

1 15. (original) The method of claim 7, wherein the storage system includes a
2 plurality of storage devices.

1 16. (new) A method of dynamically mapping addresses between a virtual disk
2 address and one or more physical block addresses for a storage system in response to a write
3 operation requested by a host system, the method comprising:

4 receiving a write request from a host, said write request including a virtual
5 memory address and one or more blocks of data;

6 determining whether memory space in the storage system has been allocated for
7 the one or more blocks of data based on the virtual memory address;

8 if it is determined that memory space has been allocated, completing the write
9 operation to the allocated memory space; and

10 if it is determined that no memory space has been allocated:

11 automatically allocating memory space in the storage system for the one
12 or more blocks of data, including determining a number of blocks
13 of memory space in the storage system to be allocated, wherein the
14 number of blocks allocated is greater than the number of data
15 blocks included with the write request; and
16 completing the write operation to the allocated memory space..

1 17. (new) A method of dynamically mapping addresses between a virtual disk
2 address and one or more physical block addresses for a storage system in response to a request
3 from a host system to perform an operation on the storage system, the method comprising:
4 receiving a request from a host to perform an operation on one or more blocks of
5 the storage system, said request including a virtual memory address;
6 determining from a mapping table whether memory space in the storage system
7 has been allocated for the virtual memory address;
8 if it is determined that memory space has been allocated, completing the operation
9 on the allocated memory space; and
10 if it is determined that no memory space has been allocated:
11 automatically allocating memory space in the storage system for the
12 virtual address; and
13 completing the operation on the allocated memory space;
14 wherein the operation is a read operation, and wherein if it determined that no
15 memory space has been allocated, completing the operation includes returning a default
16 formatted page without retrieving any data from the storage system.

1 18. (new) A method of dynamically mapping addresses between a virtual disk
2 address and one or more physical block addresses for a storage system in response to a request
3 from a host system to perform an operation on the storage system, the method comprising:
4 receiving a request from a host to perform an operation on one or more blocks of
5 the storage system, said request including a virtual memory address, wherein the operation is a

6 write operation and wherein the request includes one or more blocks of data to be written to the
7 storage system;
8 determining from a mapping table whether memory space in the storage system
9 has been allocated for the virtual memory address;
10 if it is determined that memory space has been allocated, completing the operation
11 on the allocated memory space; and
12 if it is determined that no memory space has been allocated:
13 automatically allocating memory space in the storage system for the
14 virtual address, including determining a number of blocks of
15 memory space in the storage system to be allocated, wherein the
16 number of blocks allocated is greater than the number of data
17 blocks included with the write request; and
18 completing the operation on the allocated memory space.